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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,401	05/12/2005	Filip Arnaut	VANM199.005APC	6305
20995 7590 12/07/2007 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614				
EXAMINER				
BADR, HAMID R				
ART UNIT		PAPER NUMBER		
4174				
NOTIFICATION DATE		DELIVERY MODE		
12/07/2007		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

# Office Action Summary

**Application No.**

10/510,401

**Applicant(s)**

ARNAUT ET AL.

**Examiner**

Hamid R. Badr

**Art Unit**

4174

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- Paper No(s)/Mail Date 10/05/2003
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

### **DETAILED ACTION**

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Method and composition for the prevention or retarding of staling in bakery products.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-31 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for prevention or retarding of staling of baked products, does not reasonably provide enablement for prevention or retarding of staling during the baking process. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Staling is expected to commence after baking. The prevention of retarding of staling during baking process is confusing and obscure.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 and 9-16, and 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung (US 4,851,234) in view of Luebering et al. (US 3,561,975)
5. Chung teaches using a bacterial protease as an antistaling agent. He explains that the enzymes used in his invention can be any food grade bacterial or fungal protease enzyme (Abstract and Col. 2, lines 62-68).
6. He discloses the use of a proteolytic enzyme having an activity within a range from about 190 to about 210 Neutral Protease Units (NPU) (Col. 3, lines 67 to Col. 4 line 2).
7. Chung discloses the use of the antistaling agent in the yeast-raised bakery products such as breads and sweet doughs. They include American white, rye, bran, Pullman type (square) loaf bread, English type roll bread, milk bread, French bread, butter rolls, pastries, doughnuts, jam or cream filled buns. The breads may be in the form of loaves, rolls, hamburger, hot dog rolls, pizza crust or any other yeast raised bakery product (Col. 4, lines 54-66).
8. Chung is silent on using thermostable protease as antistaling agent.
9. Luebering et al. disclose using protease in their product. The protease is in the form of spherical particles consisting of the protease, a shortening and an emulsifier (Col. 3, lines 2-5 and lines 7-11).

10. They teach using thermostable proteases which do not substantially deactivate at temperatures below about 95°F and those enzymes having a deactivation temperature exceeding about 150°F are preferred. The enzyme utilized herein preferably should be effective at a low enough level so as not to adversely contribute to crust flavor (Col. 3, lines 74 to Col. 4 lines 1-5).

11. They mention the use of proteolytic enzymes such as plant, animal and microbial proteases. A preferred protease is papain which deactivates at about 200°F and therefore is more stable at oven temperatures (Col. 4, lines 6-21).

12. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the teachings of Chung to include the thermostable proteases taught by Luebering et al. to receive the benefits of a thermostable antistaling agent. Absent any evidence to contrary and based on the combined teachings of the cited references, there would have been a reasonable expectation of success.

13. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung and Luebering as applied above, further in view of RU2177994.

14. Chung and Luebering are silent on the use of keratinase for preventing or retarding the staling in baked goods.

15. RU2177994 discloses a new keratinase from *Bacillus licheniformis*. The keratinase can be used in the food industry (Abstract).

16. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the teachings of Chung and Luebering et al. by including the keratinase taught by RU2177994 to receive the benefits of a thermostable antistaling agent. Absent any

evidence to contrary and based on the combined teachings of the cited references, there would have been a reasonable expectation of success.

17. Claims 8, 17-18 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung, Luebering et al. and RU2177994 as applied to claims 1-7, 9-17 and 23-30 above, further in view of Olesen et al. (US 6,110,508).

18. Chung, Luebering and RU2177994 are silent on the use of other dough improving enzymes as well as specific examples of emulsifiers.

19. Olesen et al. disclose the use of lipase together with other enzymes such as cellulase, hemicellulase, xylanase, glucose oxidase, peroxidase, amyloglucosidase, and alpha-amylase (Col. 5, lines 33-46).

20. They teach using emulsifiers such as mono and diglycerides, diacetyl tartaric acid esters of mono- and diglycerides (DATEM), sugar esters of fatty acids, lactic acid esters of monoglycerides, polyoxyethylene stearates, phospholipids and lecithin in their dough improver (Col. 6, lines 46-56).

21. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the teachings of Chung, Luebering and RU2177994 to make a thermostable anti-staling agent by including the improving enzymes and emulsifiers taught by Olesen to receive the benefits of the dough improving properties of such enzymes and emulsifiers to prevent or retard staling in baked goods. Absent any evidence to contrary and based on the combined teachings of the cited references, there would have been a reasonable expectation of success.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hamid R. Badr whose telephone number is 5172703455. The examiner can normally be reached on M-F 7:30-5:00 ET (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 5712721515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 4174

Hamid R Badr  
Examiner  
Art Unit 4174